

DeepSVG: A Hierarchical Generative Network for Vector Graphics Animation

Year: 2020 | Citations: 174 | Authors: Alexandre Carlier, Martin Danelljan, Alexandre Alahi, Radu Timofte

Abstract

Scalable Vector Graphics (SVG) are ubiquitous in modern 2D interfaces due to their ability to scale to different resolutions. However, despite the success of deep learning-based models applied to rasterized images, the problem of vector graphics representation learning and generation remains largely unexplored. In this work, we propose a novel hierarchical generative network, called DeepSVG, for complex SVG icons generation and interpolation. Our architecture effectively disentangles high-level shapes from the low-level commands that encode the shape itself. The network directly predicts a set of shapes in a non-autoregressive fashion. We introduce the task of complex SVG icons generation by releasing a new large-scale dataset along with an open-source library for SVG manipulation. We demonstrate that our network learns to accurately reconstruct diverse vector graphics, and can serve as a powerful animation tool by performing interpolations and other latent space operations. Our code is available at this [https URL](https://).